Future Logistics Enterprise

The Way Ahead

June 3, 2002

The Future Logistics Enterprise (FLE) is an integrated set of six collaborative initiatives to achieve end-to-end customer service within Department of Defense logistics operations. The primary intent of the FLE is to accelerate DOD's implementation of integrated logistics chains and commercial information systems to meet warfighter sustainment needs and the operational requirements of the National Defense Strategy. The FLE is focused on those mid-term policy, process, and systems changes the DOD must make in order to continue to effectively support our warfighting customers. The six collaborative initiatives are:

- Depot Maintenance Partnerships
- Condition-Based Maintenance +
- Total Life Cycle Systems Management
- End-to-End Distribution
- Executive Agents
- Enterprise Integration

In September 2001, I formed the Joint Logistics Board (JLB) with the logistics service providers and customers to assess and shape the FLE initiatives. The JLB is composed of the Department's most senior logisticians from the Services, Joint Staff, US Transportation Command, and the Defense Logistics Agency. This document summarizes the efforts of the JLB to assess the policy implications of the initiatives and to chart a near-term way ahead for implementation actions during calendar year 2002.

The JLB should be proud of the progress we have made in only six months. I applaud the JLB members and their staffs for their commitment and hard work.

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1. Future Logistics Enterprise

The Future Logistics Enterprise (FLE) is DOD's mid-term vision (2005-2010) to accelerate logistics improvement, enhance support to the warfighter, and align logistics processes with the operational demands of the 21st century. The primary objective of the FLE is to ensure consistent, reliable support that meets warfighter requirements through enterprise integration and end-to-end customer service. The FLE builds upon and accelerates specific, ongoing Service/Agency initiatives to meet the requirements of the Quadrennial Defense Review (QDR) and the National Defense Strategy. The six initiatives are:

- Depot Maintenance Partnerships
- Condition-Based Maintenance + (CBM+)
- Total Life Cycle Systems Management (TLCSM)
- End-to-End Distribution
- Executive Agents (EA)
- Enterprise Integration (EI)

With the end of the Cold War, the Department of Defense pursued numerous initiatives to align its logistics processes with the operational and business requirements of the 21st century. The Joint Chiefs of Staff, in Joint Vision 2020 (JV 2020), described a military environment based upon speed, precision, lethality, and information dominance. Further, they identified "Focused Logistics" as necessary to project and sustain forces in that future environment.

The Services and Defense Agencies initiated numerous actions in pursuit of the objectives of JV 2020. The 2001 QDR documented the need to accelerate DOD transformation efforts to meet emerging threats. The terrorist attacks of September 11, 2001, and the subsequent Global War on Terrorism highlight the immediate need to accelerate change, including definition and implementation of the Future Logistics Enterprise.

To fully assess the policy and implementation implications of those initiatives, the Deputy Under Secretary of Defense (Logistics and Material Readiness) [DUSD(L&MR)] established the Joint Logistics Board (JLB). The JLB members are the commanders of the Service materiel commands, senior Service staff logisticians, the Joint Staff Director for Logistics, the Deputy CINC US Transportation Command, and the Director, Defense Logistics Agency. This paper documents the results of the JLB's initial six-month effort to assess policy and describe the near-term way ahead to implement the six initiatives. This document will be updated periodically to include additional required actions as they

emerge. Reports, measures of effectiveness, and metrics will be identified during the next six months. Efforts supporting each initiative are presented below.

2. Depot Maintenance Partnerships

Depot maintenance services, costing over $17B annually, are performed at a mix of 20 public and hundreds of private facilities. While both public and private providers have improved performance, the challenges to organic depots are significant. These facilities currently have an aging workforce comprised of those workers who remained after a 51 percent reduction in force over the last ten years, and severely degraded facilities and equipment because funds were re-allocated to higher priority requirements.

The primary intent of the depot maintenance partnership initiative is to enhance depot support to the warfighter by enabling and empowering the DOD organic depots to develop appropriate partnerships with the commercial sector, while recognizing the legitimate national security need for DOD to retain depot maintenance capability. The desired end state is a dramatic increase in depot maintenance public-private partnerships, resulting in greater private sector investment in facilities and equipment, better facility utilization, reduced cost of ownership, workforce integration, more efficient business processes, greater credibility, and a more collegial working relationship with Congress.

Several actions were completed in support of this initiative. Two provisions beneficial for depot maintenance partnering were included in the National Defense Authorization Act for Fiscal Year 2002. These provisions exempt partnering work from the 50 percent limit on contracting when accomplished by the private sector at designated depots and amend several "hold harmless" provisions to include cost, schedule, and quality as a basis to file a claim if the public sector fails to comply with a contract. A comprehensive policy memorandum was promulgated providing a framework to aggressively expand partnering. Three additional legislative proposals are under consideration to enhance partnering. A communications strategy for stakeholders has been developed to increase support and understanding for this initiative. Additional implementation actions approved by the JLB with estimated completion dates for each action follow:

- Publish Service implementation plans (05/01/02)
- Develop reports and measurements of effectiveness (05/31/02)

3. Condition-Based Maintenance Plus (CBM+)

Today, the DOD does not adequately predict failures on equipment to produce broad-based planned maintenance programs. The inability to adequately predict failures has produced a labor force that requires extensive knowledge and training, diagnostic

equipment that is cumbersome, time consuming and often unreliable, long repair cycle times which result in expensive supply pipelines. Many of the current business processes rely on time or operation intervals for servicing that are labor intensive and fail to address specific conditions driven by environmental and operational factors. Additionally, there is a need to better integrate maintenance and other logistics functions to improve responsiveness and reduce footprints. Moving toward CBM+, with more accurate predictions of impending failures based on condition data, would result in dramatic savings and improved weapon system availability to meet CINC requirements.

CBM+ focuses on inserting into both new and legacy weapon systems, technology to support improved maintenance capabilities and businesses processes. It also involves integrating and changing business processes to dramatically improve logistics system responsiveness. Under consideration are capabilities such as enhanced prognosis/diagnosis techniques, failure trend analysis, electronic portable or point of maintenance aids, serial item management, automatic identification technology and data-driven interactive maintenance training. The ultimate intent of this initiative is to increase operational availability and readiness throughout the weapon system life cycle at a reduced cost. The desired end state is a force of maintainers who have the knowledge-skill sets and tools to maintain complex systems at the optimal time through the use of available technologies that improve maintenance decisions and integrate the logistics processes. Assessment of current guidance, programs, technologies and processes is an ongoing action, as is incorporating CBM+ into the requirements and acquisition review/ approval process. Actions underway to support this initiative and approved by the JLB include:

- Draft new policy (05/30/02)
- Incorporate into DOD 5000 series (06/03/02)
- Develop Service implementation plans (09/03/02)

4. Total Life Cycle System Management (TLCSM)

Sustainment of DOD systems consumes approximately 80 percent of DOD logistics resources or $62B annually. End-to-end customer support for system sustainment involves the integration of logistics chains across government and industry throughout the life cycle of a system. Specific DOD challenges in this area include:

- Sporadic attention to sustainment characteristics during the early requirements process;
- Distinct break in systems responsibility between the acquisition and sustainment phases of the life cycle;
- Sustainment processes focused on functional optimization versus customer service.

To address these deficiencies, the Services and DLA tested innovative sustainment strategies on pilot programs. DOD directed application of promising strategies and established the program managers as responsible for the total life cycle (acquisition and sustainment) for new systems. Subsequently, the QDR directed application of life cycle management and performance-based logistics (PBL) for new and fielded major systems.

The primary intent of Total Life Cycle System Management is to improve weapon system sustainment by establishing clear responsibility and accountability for meeting specified warfighter performance requirements within the program management office. PMs will be held responsible for the overall management of the weapon system life cycle to include: timely acquisition of weapon systems, meeting warfighter performance requirements, integration of sustainability and maintainability during the acquisition process, and weapon system sustainment to meet or exceed warfighter performance requirements throughout the life cycle at best corporate value to the Services and DOD. The JLB approved the following implementation actions:

- Improve Defense Acquisition University curriculum to address TLCSM through the Functional Integrated Process Team (complete)

- Support development of Service Performance Based Logistics (PBL) implementation schedules (complete)

- Develop enabling financial mechanisms with Under Secretary of Defense (Comptroller) (ongoing)

- Revise DOD publications 5000.1/5000.2 to provide guidance on performance agreements, focus on TLCSM, define sustainment phase, provide PM sustainment guidance, and incorporate Service and OSD oversight mechanisms (July ’02)

- Request Vice Chairman, Joint Chiefs of Staff (VCJCS) improve Joint Requirements Oversight Council (JROC) process (Oct ’02)

5. End-to-End Distribution

The purpose of distribution is to reliably provide the warfighter the right material at the right time to support the continuous combat effectiveness of the deployed force. Currently, the DOD distribution environment is comprised of multiple, unsynchronized distribution nodes and segments, with rescheduling often required at each change of transportation mode. The DOD also employs a myriad of discrete supply chains that are optimized at the item/commodity/customer/mode level but not harmonized at the enterprise level. This distribution environment places a heavy materiel-tracking burden on the customer, who lacks complete information and end-to-end visibility. This often creates

unnecessary customer workloads at the point of receipt, which is especially critical when the point of receipt is an austere area of conflict. Instead of focusing on the customer's time definite delivery requirement from end-to-end, the focus of distribution providers is optimization by mode, by supply chain segment, or by color of money. Although the amount of time an item spends in any given supply chain segment may be minimal, the end-to-end movement from source to ultimate customer is often unacceptable. (On the other hand, speed alone is not the desired outcome; rather, the goal is to meet a customer's expectation regarding delivery time.) Additionally, contracts for materiel acquired through purchase card, direct vendor delivery, and weapon system contractor logistics support do not always provide for a smooth transition from peacetime to wartime, especially in austere locations, resulting in delays due to frustrated cargo. Moreover, the sustainment and materiel distribution process is not well integrated with force deployment flow, and deploying forces and sustainment compete for the same lift capacity. As a result, supporting infrastructure, lift availability and port capability are at times adversely impacted during deployments.

The end-to-end distribution initiative is directed toward streamlining warfighter support by providing materiel, including retrograde and associated information, from the source of supply or point of origin to the point of use or disposal, as defined by the CINC, Military Service, or characteristics of the commodity, on a worldwide basis. The intent of the initiative is to influence acquisition, sourcing, positioning, and transportation to facilitate the flow of materiel to the end user, ensuring that deployment and sustainment are synchronized. To preclude a "business as usual" solution to distribution-related problems, bold new "out of the box" initiatives must be introduced to provide a mechanism to pull all the parts together to resolve process problems spanning functional and organizational boundaries. The desired end state is an integrated, synchronized, end-to-end distribution system to meet warfighter requirements for information and materiel. The JLB- agreed upon plan of action for this initiative include:

- Support DUSD (L&MR) synchronization of policies and initiatives, in partnership with all service providers and process owners, for end-to-end distribution, including distribution process business rules and procedures. (ongoing)

- Advocate greater consideration of distribution in acquisition decisions (ongoing)

- Engage with strategic partners and conduct an independent study to identify additional improvements in the management of end-to-end distribution (complete 9/30/02)

6. Executive Agents (EA)

According to the most recent Focused Logistics Wargame, assignment of logistics Executive Agent responsibilities was the primary concern. Specifically, at the operational, theater, or tactical level, CINC OPLANS, directives, local Inter-Service Support Agreements (ISSAs), and DOD / Joint publications assign Service Components as "lead" or "provider" of common services or materiel support to other Service Component elements during Joint Force operations. Changes in logistics business processes incorporating supply chain management techniques used by strategic or wholesale level providers add further complexity. Examples of these are Subsistence (Class I Supply) and Bulk Fuel (Class III Supply).

This issue has a key defining impact on how a CINC or Joint Force Commander receives logistics support. Lack of clearly defined, coordinated, and consistent application of these terms during peacetime, combined with the variety of ways Joint Force Commanders assign common support missions to components, results in confusion and complicates CINCs' planning processes. It presents significant challenges to the Military Services as they plan for and resource these assigned functions, including force structure, particularly in small-scale contingencies

In turn, mission responsiveness and agility in meeting operational requirements and readiness is degraded. In recent years, there have been significant force structure changes, impacting execution of Executive Agent responsibilities. Executive Agent responsibilities drive both Active and Reserve Component force structure. There is no clear process to define requirements for the Executive Agent, Lead Agent, Lead Service, or Provider. Without clear and quantified requirements, the assigned EA cannot adequately plan to provide the needed support. To assure responsiveness and agility, there is a need to integrate new support capabilities (i.e., supply chains) and their associated managers.

The EA initiative is aimed at improving support to warfighters by ensuring that EA roles, responsibilities, resources, and capabilities are responsive to the supported CINCs' deployment and sustainment requirements. The initiative builds upon the emerging results of the recent Focused Logistics Wargames, analyses of EA responsiveness, and applications of customer relations management.

The primary intent of the EA initiative is to assess and align EA designations with warfighter requirements arising from the National Defense Strategy. The desired result of this initiative is a formal assignment process focusing logistics EA responsibilities on support of warfighting requirements; EA assignments that support the warfighter across the full spectrum of operations, including support on an end-to-end basis and rapid response to all deployments; improved crisis/deliberate planning to include EA responsibility and alignment of the resource (budget, force structure, etc.) responsibilities associated with the EA.

The implementation actions and target dates for this initiative include:

- DLA to prepare a schedule for assessing potential EA assignments for construction and medical materiel (Ongoing)

- DLA to prepare Concept of Operations (CONOPS) and draft DOD directives assigning EA responsibilities for Bulk Petroleum and Subsistence. ECD May-02

- Complete initial analyses of emerging Executive Agents (Ongoing)

7. Enterprise Integration (EI)

Presently, interactions among DOD customers and partners are characterized by paper-based and batch-processed transactions, created and recreated in a sequential chain of activity – functional stovepipes. These processes and transactions do not capitalize on today's technology and best practices. Over the years, lack of oversight and real portfolio management produced thousands of logistics systems and associated interfaces, which must be sustained and maintained. It's estimated that between $1.5B and $2.5B is spent annually to support these logistics systems that remain susceptible to errors and delays that do not support today's more agile, lethal defense forces.

To accelerate development of a logistics EI, this initiative builds upon efforts, underway within the Services and DLA, which are developing successfully use commercial Enterprise Resource Planning (ERP) and other Commercial Off-the-Shelf (COTS) tools for modern, integrated solutions to complex information requirements across the DOD logistics enterprise. Since changes to commercial software increase cost and risk, the initiative seeks to avoid software change by identifying common, reusable business practices assumed by available software that will support participants across the enterprise. The initiative is based upon phased implementation with adequate training and the full support of leadership. Collaborative solutions and shared knowledge will be encouraged through policy initiatives and oversight. The desired end state of this initiative is for highly trained and skilled people within the DOD logistics enterprise to have access to near real time, actionable information provided by modern, commercially-based software products that have been rapidly implemented to enable reengineered logistics processes and business rules.

An ongoing action to support implementation of this initiative is continued coordination with the USD, Comptroller staff to outline relationships between acquisition/logistics and financial future-oriented initiatives. Additionally, fact-finding reviews of "Enterprise Initiatives" (phase one) are complete and a management mechanism, the "Triangle", was established for oversight and collaboration to support realization of the EI architecture. The three elements of the "Triangle" are program

implementation, change management, and best business practices. Other actions approved by the JLB to implement this initiative involve:

- Triangle Working Group Plans of Action and Milestones (04/01/02)
- Fact finding review of "Enterprise Initiatives" (Phase Two) (04/12/02)
- Draft Policy Recommendations (04/30/02)

8. Next for the JLB

The JLB will meet on a quarterly basis to monitor implementation of the initiatives and progress on approved actions through calendar year 2002. The DLEB and IPTs will meet on a bi-weekly basis. This schedule will remain in place until the end of calendar year 2002, at which point a different schedule will be considered for the following twelve-month period.

Appendix A

Definition of Key Terms

Benefits
Advantages. (Webster's)

CINC
An acronym for Commander-in-Chief. A commander-in-chief of one of the unified or specified combatant commands established by the President. Commander of a combatant command. (DOD Dictionary and JP 1-02).

Component
One of the subordinate organizations that constitute a joint force. Normally a joint force is organized with a combination of Service and functional components. In logistics, a part or combinations of parts having a specific function, which can be installed or replaced only as an entity. (DOD Dictionary and JP 1-02)

Condition Based Maintenance (CBM)
A set of actions taken as a consequence of knowing current operating status of equipment. It is a form of proactive equipment maintenance that forecasts incipient failures based on real time assessment of equipment condition obtained from embedded sensors and or external tests and measurements using portable equipment. (Study on CBM by LMI - #LG903B1 August 2000)

Condition Based Maintenance + (CBM+)
CBM+ is the integrated application of a collection of advanced engineering, maintenance, and information technologies to improve maintenance and logistics practices.

Contract
A promise or a set of promises for the breach of which the law gives a remedy or the performance of which the law in some way recognizes as a duty (DAU Contracts Course - CON 210, 1999)

Contract Providers
Organizations or agencies that provide contracting services for customers.

Customer
One that purchases a commodity or service (Webster's). In our context, a warfighter at the point of consumption requiring material and/or services.

Customer Wait Time
A measurement of the total elapsed time between the issuance of a customer order and satisfaction of that order. (DOD Instruction 4140.61 and JP 4-09)

Distribution
The receiving, stocking, storing, picking, kitting, packaging, marking, issuing, distributing, and transporting of materiel. The operational process of synchronizing all elements of the logistics system to deliver the "right things" to the "right place" at the "right time" to support the geographic combatant commander. (JP1-02)

Dominant User
The Service or multinational partner who is the principal consumer of a particular common user logistic supply or service within a joint or multinational operation. The dominant user will normally act as the lead Service to provide this particular logistic supply or service to other Service components, multinational partners, other governmental agencies, or non-governmental agencies as directed by the combatant commander. (DOD Dictionary and JP 1-02)

End-to-End
An environment in which all activities associated with the flow and transformation of supplies and related information flows are encompassed from source to consumption (Supply Chain Management by Handfield and Nichols 1999)

Enterprise
A community of interest (such as the DOD logistics community) (Defense Reform 2000, Electronic Commerce Conference 6/00). The whole corporation, including all the parts on which the corporation's life depends (Newton's Telecom Dictionary, 16th ed.)

Force Provider
Military Services. In the context of joint operations, all Service forces (except as noted in Title X Sec 162) are assigned (provided) to the combatant commands (i.e. the unified and specified commands). Examples are: FORSCOM, Air Combat Command, Air Mobility Command, NAVSEA, NAVAIR, etc. (Joint Doctrine Capstone and Keystone Primer 7/97)

Performance
The execution of various measures used to ensure parties to an agreement are operating according to expectations and stated objectives (Supply Chain Management by Handfield and Nichols, 1999)

Performance Agreement
An arrangement that is broader in scope than a contract, encompassing both those promises that the law will enforce and those that the law will not enforce. (DAU Contracts Course – CON 210 1999)

Supplier
An organization that provides inputs (components, products, supplies), either directly or indirectly, to a focal organization (a downstream supplier, a distributor, a customer) (Supply Chain Management by Handfield and Nichols, 1999)

Sustainment
The first work effort of the operations and support phase established and defined by DODI 5000.2. The purpose of the sustainment work effort is to execute the support program to meet the operational support requirements of the program in a cost effective manner. Sustainment includes, but is not limited to, plans and activities related to supply, maintenance, transportation, sustaining engineering, data management, configuration management, manpower, training, safety, and health.

Systems Engineering
A comprehensive, iterative technical management process that includes translating operational requirements into configured systems, integrating the technical inputs of the entire design team, managing interfaces, characterizing and managing technical risk, transitioning technology from the technology base into program specific efforts, and verifying that designs meet operational needs. It is a life cycle activity that demands a concurrent approach to both product and process development.

Time Definite Delivery
The delivery of requested logistics support at a time and destination specified by the receiving activity. The concept that, within a specified degree of probability (e.g., 95 percent), the logistics system is capable of delivering required materiel to the customer within a given period of time. (DOD Instruction 4140.61).

User
An operational command or agency that receives or will receive benefit from the acquired system. Commander-in-Chiefs (CINCs) and their Service component commands are the users. There may be more than one user for a system. The Service component commands are seen as users for systems and organize, equip, and train forces for the CINCs of the unified commands. The Chiefs of Services and heads of other DOD components are validation and approval authorities and are not viewed as users. (CJCSI 3170.01A)

User Representatives
A command or agency that has been formally designated by proper authority to represent single or multiple users in the requirements and acquisition process. The Services and the Service components of the Commanders-in-Chief (CINCs) are normally the user representative. There should be only one user representative for a system.

Value Proposition
A unique element or elements that differentiate your offer from other offers by highlighting its value. That is, the benefits of your offer greatly exceed its cost. Your offer clearly makes the statement that your solution is better than others or significantly reduces risk compared to other competitive solutions.

Warfighter
Those forces whose primary missions are to participate in combat and the integral supporting elements thereof. A commander-in-chief of one of the unified or specified

combatant commands established by the President. (Definition of Combatant Commander, JP 1-02).

Weapon(s) System
An item or set of items that can be used directly by warfighter to carry out combat or combat support missions to include tactical communications systems. (DOD Instruction 5000.2) A combination of one or more weapons with all related equipment, materials, services, personnel and means of delivery and deployment (if applicable) required for self-sufficiency (JP 1-02)